MEN'S AND WOMEN'S EXPERIENCE AND EXPRESSION OF EMOTION ACROSS SITUATIONS

By

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Abstract of Dissertation Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

MEN'S AND WOMEN'S EXPERIENCE AND EXPRESSION OF EMOTION ACROSS SITUATIONS

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This project examined an apparent conflict between the clinical and empirical literature on anger and gender. Clinical theories of anger and gender typically suggested that women have difficulty expressing anger and need therapeutic help with anger expression whereas men have difficulty controlling anger and need therapeutic help with anger control. In contrast, empirical findings from various studies revealed no clear pattern of significant gender differences in the experience and expression of anger.

This study introduced the notion that both groups of scholars could have been correct because of differences in the psychological conditions of the people that they studied. It was hypothesized that the clinical subjects may have self-selected for therapy because they came from environments where they were not free to express their emotions. In contrast, the empirical subjects were not in

therapy and may not have had this constraint. This permission paradigm was then tested via a controlled experimental design.

Participants (n=290) were randomly assigned to conditions where they were either frustrated or not frustrated and were either allowed or not allowed to express their emotions.

In conditions where women and men were frustrated and told to suppress their emotions it was expected that significant gender differences in measures of state anger, depression, and hostility would be found. Conversely, in conditions where women and men were frustrated and given permission to express their emotions, no significant gender differences were expected. These same patterns were expected when masculinity and femininity, as measured by the Personal Attributes Questionnaire, were substituted for sex as an independent variable.

Although manipulation check procedures indicated that the study provided a fair test of the hypotheses, results indicated that no clear pattern of gender differences occurred across the various conditions. Thus the hypothesized explanation for the discrepancy between the clinical and empirical evidence was not supported. These results, which found no clear pattern of gender differences in the experience and expression of anger, supported the findings of the empirical theorists.

CHAPTER 1
INTRODUCTION

This study focused on an apparent conflict between the clinical and empirical literature on anger and gender. Clinical theories of anger and gender typicall suggest that women have difficulty expressing anger and need therapeutic help with anger expression, while men have difficulty controlling anger and need therapeutic help with anger control. In contrast, empirical findings from various studies reveal no clear pattern of significant gender differences in the experience and expression of anger.

This project examined the possibility that both groups of theorists could be correct because of differences in the conditions influencing the populations that they studied. It was hypothesized that the clinical subjects may have self-selected for therapy because they came from environments where they were not free to express their emotions. In contrast, the empirical subjects were not in therapy and may not have had this constraint. This paradigm was explored and tested via a post-test only, control-group between subjects design.

If asked, "do men and women differ in their experience and expression of anger?", most people would almost

certainly answer yes. In the book entitled Anger, the Misunderstood Emotion, social psychologist Carol Tavris (1989) argued that the prevailing climate in clinical circles was that women have difficulty expressing anger and tend toward anger suppression, whereas men express anger freely and have problems controlling anger.

Sharkin (1993) reviewed theoretical perspectives on anger and gender and reached the same conclusion. Not surprisingly, Sharkin concluded that modern treatment approaches for women emphasized the expression of anger as a means of empowerment, while therapy models targeted towards men tended to treat male anger as something that needed to be controlled or dealt with constructively.

The review of the related literature prepared for this study revealed a similar pattern. Clinical theorists writing about women and anger have concluded that women who have difficulty expressing anger need therapeutic help with expression (Collier, 1982; Gilbert, 1980; Halas, 1981; Hotelling & Reese 1983; Lemkau and Landau, 1986; Lerner, 1980, 1985, 1988; Miller, 1976; Sanford & Donovan 1984; Williams, 1976). Similarly, clinical theorists writing about men and anger have concluded that men have difficulty controlling anger and need therapeutic help with control (Allen & Gordon, 1990; Heppner & Gonzales, 1987; Karsk & Thomas, 1987; Long, 1987; Moore, 1990; Passick Gordon &

Meth, 1990; Scher, Stevens, Good, & Eichenfeld, 1987; Skovholt & Hansen, 1980).

Additionally, this review identified a discrepancy between these clinical theories and the results from empirical studies on anger and gender. Much of the data on anger and gender came from Spielberger and his associates' original work on the nature of anger (Spielberger et al., 1985).

Spielberger's data from a sample of 1,114 high school students (634 males, 480 females) did not reveal any significant pattern of gender differences in the experience and expression of anger. In fact, in some cases the findings were contrary to what would have been predicted by the clinical theories. Other data from studies on the medical sequelae of anger revealed either no gender differences or slight differences which conflicted with the assertions of the clinical theorists (Johnson, 1984,1990).

Other empirical researchers have found similar results. No consistent pattern of gender differences was found in studies involving medical and surgical patients (Spielberger 1991), adults aged 21-83 (Stoner & Spencer, 1987), and prison inmates (Spielberger, 1991). Similarly, survey research has not revealed any clear pattern of gender differences in the expression of anger (Averill 1982; Buehner, 1993; Fitz 1979a, 1979b; Frost & Averill, 1978).

Statement of the Problem

The clinical theorists cited above believed that there are clear gender differences in anger patterns of women and men. This belief has lead to the development of clinical intervention strategies that are based on these accepted differences. If, as Tavris has suggested and the empirical data seemed to confirm, the nature of anger is actually misunderstood, then the entire practice of employing gender determined treatment strategies for anger may be in error.

Conflict between Clinical and Empirical Findings

Why is it that the empirical research evidence on anger and gender conflicts with the clinically based evidence? Tavris (1989) argued that many of the theorists who claimed that women are unable to adequately feel or express anger were writing from personal experience or drawing anecdotal evidence from clinical material rather than considering scientific evidence. Sharkin (1993) also noted the anecdotal nature of these theories and suggested that the conclusions were reached via observation and over-generalization rather than from empirical research. Both reviewers criticized the clinical theorists for over-generalizing from case material to the general population, but neither reviewer really explained why the clinical evidence differed from the empirical evidence.

The first possible explanation is that the clinicians were simply wrong. This corresponds to the notion that clinicians may have been reading into their clients experiences of anger and seeing gender differences where they did not exist. Although this argument may be appealing to those who see clinical observation as a weak method of research, it negates the fact that clinicians may notice details about their clients that may be missed by empirical surveys.

The second explanation for the discrepancy is the notion that the clinical observations may have captured nuances that the empirical research missed. That is, the empirical tools were simply not sensitive enough to see the gender differences that really existed. While this "missed effect" explanation might also be initially appealing, the empirical anger instruments have been shown to be reliable and valid measures of the dimensions of anger expression and suppression (Spielberger, 1991).

A third explanation is that there may have been something about the clinical population that was notably different from the non-clinical population. Sharkin (1993) stated "It may be that gender differences with anger exist within clinical populations, whereas few such differences are observed within non-clinical populations" (p. 388).

If this is true, it is crucial to understand where the differences between the clinical populations and the non-clinical populations lie.

The empirical data that showed no gender differences were drawn from varied non-clinical samples including high school students, prisoners, hospital patients, and others. These participants were not therapy patients, that is they did not self-select based on any type of emotional problem. Because these varied samples all gave similar results, perhaps there was some condition or assumption common to the empirical subjects that was not present in the clinical sample.

The circumstances under which the empirical data were collected shared some similar characteristics. Questionnaire directions asked people to openly describe how they felt. Additionally, researchers were typically interested in understanding respondents' feelings. Also, participants typically respond anonymously. Similarly, interview research also encouraged frank disclosure. Perhaps these factors implicitly conveyed permission to respond openly and honestly.

This permission paradigm allows for possible reinterpretation of the empirical findings. Restating the results in this context yields the following hypothesis: When given permission to openly express their emotions,

women and men did not display significant gender differences with regard to anger.

Perhaps a related perspective can be used to understand the clinical observations. Although the therapists who made clinical observations were clearly interested in frank and open disclosure of emotion, one could easily argue that people sought therapists when they were not free to openly express their thoughts and feelings in their natural environment. That is, clinical subjects may have self-selected for therapy because of problems resulting from suppressing emotion.

Perhaps the women and men in the clinical population who revealed gender differences with anger came from environments where they were explicitly or implicitly told to control their emotions. Again, the permission paradigm allows for possible reinterpretation of the clinical findings. Restating the results in this context yields the following hypothesis: When not given permission to openly express their emotions, women and men did display significant gender differences with regard to anger.

Need for Research

These reinterpretations suggest that it is important to study women's and men's anger from the perspective of instructions to express or suppress anger. The importance of studying this paradigm is strengthened by two factors.

First, Tavris argued that both women and men are often encouraged to suppress anger (p. 199).

> Many girls are indeed forbidden to express anger openly, but so are many boys. It may be "unladylike" for a woman to loose her temper, but it is "unmanly" as well. A woman may have trouble expressing her anger directly to her boss, but so does a man. (Tavris, 1989, p. 199)

This suggests that, at times, both women and men are prohibited from expressing anger openly.

Second, anger suppression has been shown to be related to different medical problems for women and men. For women, repressing or controlling emotions, especially anger, is positively correlated with breast cancer (Bageley, 1979; Morris, Greer, Pettingale, & Watson, 1981; Watson, Pettingale, & Greer, 1984). For men, repressing emotions has been associated with respiratory disturbances (Sahar & Kureshi, 1990), and repressing anger, in particular, has been correlated with increased blood pressure (Dimsdale, Pierce, Schoenfeld, & Brown, 1986; Holroyd & Gorkin, 1983; Johnson, Spielberger, Worden, & Jacobs, 1987; Mills & Dimsdale, 1993).

Anger suppression has been shown to correlate with differing physical problems in women and men; therefore, it is also quite possible that anger suppression is correlated with different psychological problems in women and men. Furthermore, the permission paradigm may explain the

differences in findings between the empirical and clinical research on anger and gender.

Design of the Study

This study employed a 2 (anger versus no anger) X 2 (express versus suppress emotion) X 2 (men versus women) between-subjects factorial design. Anger was manipulated via the presence or absence of a frustrating event (unsolvable problems). This type of manipulation has been reliably used in previous studies to induce anger (Baldaszti & Opgenoorth, 1988; Gordon, 1980) and to provoke arousal (Casanova, Domanic, McCanne, & Milner, 1992; Matthews and Angulo, 1980; Pomerleau, Turk, & Fertig, 1984; Weidner, Friend, Ficarrotto, & Mendell, 1989).

Expression versus suppression of emotion was manipulated via permission and opportunity to express emotion. This portion of the design conceptually replicated the conditions under which both the empirical and clinical observations may have been made. The hostility and depression sub-scales of the Multiple Affect Adjective Checklist--Revised (MACCL-R), Today Form were used to measure men's and women's state levels of depression and hostility. As an additional anger measure, the State Anger Sub-scale (S-Anger) from the State-Trait Anger Expression Inventory (STAXI) was added.

This design allowed for the systematic study of gender differences in men's and women's responses to frustrating and non-frustrating situations. Additionally, this design captured the dimension of permission to express anger or instruction to suppress anger. This dimension, which has not been adequately incorporated into the psychological study of anger and gender, may account for the differences between clinical observations and empirical findings in anger and gender research.

Hypotheses

Hypothesis 1. The first experimental hypothesis was drawn from the empirical anger research. In conditions where women and men were frustrated and given permission to express their emotions, no significant gender differences in measures of state levels of depression, hostility and anger were expected. This corresponds to the idea that no differences were found in the empirical research because of the permission to openly express feelings.

Hypothesis 2. The second experimental hypothesis was drawn from the clinical anger research. In conditions where women and men were frustrated and told to suppress their emotions, significant gender differences in measures of state levels of depression, hostility and anger were expected. This corresponds to the notion that differences were found in the clinical research because therapy patients

may not have been able to freely express emotion in their natural environments.

Hypothesis 3. The third experimental hypothesis concerned the nature of the differences predicted in the second hypothesis. This prediction was drawn from classic models of gender-based behavior (Bem, 1974; Spence & Helmreich, 1974). These theories suggest that men typically display assertive and instrumental traits and tend toward independent action. Therefore, the third hypothesis predicted that men who were frustrated and told not to express their emotions would externalize, displaying higher hostility and State-Anger scores than women who were frustrated and told not to express their emotion.

The classic models of gender-based behavior suggest that women typically display interpersonal and expressive traits and tend toward cooperative action. These models would predict that women who were frustrated and told not to express their emotion would not display hostile affect openly. Therefore, the third hypothesis also predicts that women in this condition will display lower hostility and State-Anger scores than men in the same condition. Finally, as these models also suggest that women would negate or internalize any anger to preserve interpersonal connection, the third hypothesis also predicts that women who were frustrated and told not to express their emotions would

display higher scores on state depression measures. While they might be equally as frustrated as men, they would be expected to internalize this frustration and instead express negative or dysphoric affect.

The predictions made in Hypothesis 3 are also supported by Tavris' notion that there are differing consequences that women and men face for expressing their anger.

> So of course there are differences between the sexes; it is just that the differences have little to do with the innate or even learned ways of expressing anger and more to do with the intricate differences between their cultures and their circumstances. (Tavris, 1989 p. 219)

This perspective suggests that women, who traditionally occupy a lower social status, may face more severe consequences for expressing anger, while men may be expected to express anger as part of their gender role. This perspective would suggest that women may feel pressed to comply with the suppression instructions and feel devalued and report dysphoric affect.

Hypothesis 4. The fourth experimental hypothesis predicted that the patterns hypothesized for men and women would also be revealed if traditional gender role identification was substituted for biological sex in the data analysis. For this analysis, the Personal Attributes Questionnaire, a measure of traditional masculinity and femininity, was added to allow for post-hoc analyses.

The ultimate goal of this study was to provide data that can be used to develop psychotherapeutic interventions that help women and men to cope better with life's emotional pressures.

Table 1-1. Expected results for Hypotheses 1-3

	MEN		WOMEN	
	EXPRESS	SUPPRESS	EXPRESS	SUPPRESS
Frustrate	no effect	hostility*	no effect	depression*
Not Frustrate	no effect	no effect	no effect	no effect

* scores were expected to be significantly different from all other cells and from each other.

Table 1-2. Expected results for Hypothesis 4

	MASCULINE		FEMININE	
	EXPRESS	SUPPRESS	EXPRESS	SUPPRESS
Frustrate	no effect	hostility*	no effect	depression*
Not Frustrate	no effect	no effect	no effect	no effect

* scores were expected to be significantly different from all other cells and from each other.

CHAPTER 2
LITERATURE REVIEW

Overview

Literature in this review was obtained using a variety of searches. First, a computerized search was conducted on the PSYCH-LIT data base dating back to 1974 for both book chapters and journal articles. To insure depth of coverage, the thesaurus function was used to search for entries indexed under the headings of anger, emotional control, human males, human females, and human sex differences. Next, to insure breadth of coverage, keyword searches using various combinations of the terms men, women, anger, control, expression, express, suppression, suppress, gender, and differences, were conducted. All possible combinations of these headings and keywords were retrieved and all relevant information was retained. The redundancy of the references located by these approaches suggested that all relevant information had been obtained.

Second, tree searches based on two key reviews of anger and gender literature (Tavris, 1989, Sharkin 1993) were conducted to ensure that no relevant literature was omitted. For the most part, all of the literature mentioned in these reviews was captured in the initial database searches. Any

non-redundant literature discovered in the tree searches was examined, and where relevant, reviewed. Finally the state wide library catalogue (LUIS) was searched to identify authored books and edited volumes on the topics of men, women, anger, and psychotherapy. These were obtained and where relevant, included in this review.

This review focuses on three distinct bodies of literature on anger and gender. The first will be referred to as the clinical literature. These writings are based primarily on clinicians' experience with psychotherapy patients. The methods underlying these theories are typically observational. Case examples are usually provided as evidence of validity.

The second body of literature will be referred to as the empirical literature. These writings were based on scientific research. The methods underlying these theories are typically quantitative, and numerical data are usually provided as evidence of validity. Survey research that was empirical in nature was also included in this section.

The third body of literature will be referred to as the anger suppression/anger control literature. These topics were reviewed to determine if a clear pattern of gender differences existed in the literature. The methods in the anger suppression studies were typically correlational, and

the methods in the anger control studies were typically pre-test post-test control-group designs.

Clinical Theories of Anger and Gender

Women and Anger

This independent review of the literature concurred with Sharkin's (1993) review of clinical perspectives on women and anger. In general, clinicians concluded that women suppress their anger and need therapeutic help with anger expression.

Clinical theories of female anger were typically presented in context of female gender role socialization and the historical subordination of women. Collier (1982) suggested that women are trained by society to suppress anger and concluded that women are afraid of their anger. They are "taught to hide or suppress anger or at most release it indirectly, most women find their anger terrifying" (p. 62). Because women are not free to express their anger, Collier advocates that therapists seek out signs of anger in their patients and actively teach women to express their anger.

> I look for it in every woman with whom I work. . . . The therapist gives permission for the client to express anger . . . (by saying things like) . . . "you must feel very angry about that" or "I feel so angry when I hear you speak about this, let's hit and scream together." . . . Unlocking that energy is the task of therapy. (p. 63)

Lerner (1980) posits that there are internal prohibitions against women's expression of anger which are rooted in both women's unconscious fear of the power of their anger and society's messages to women about the appropriateness of their anger. In The Dance of Anger, Lerner (1985) points to the negative consequences women face from expressing their anger. This volume, designed to help women to appropriately express anger, deliberately omits theories which do not support this premise. Lerner expressly states, "I have sacrificed theory, no matter how interesting, if I did not think that it had a clear, practical application to the real lives of real women" (p. 11).

In Women in Therapy Lerner (1988) reiterated the notion of sex differentiated anger styles. "Simply put, women tend to be overly inhibited, and men not inhibited enough, in the direct expression of anger" (p. 59). This contention was supported with clinical examples and evidence such as the fact that men wage war. Again, the implication for treatment was the need for therapists to help women to express anger. "A central task of psychotherapy then is to understand the unconscious fears as well as the external realities which prevent them from the direct, open, forthright, expression of legitimate anger" (p. 71).

Lemkau and Landau (1986) suggested that women suppressed anger because of a syndrome of selflessness. According to this theory, women follow cultural pressures and seek fulfillment by meeting the needs of others instead of meeting their own needs. According to this theory, women would be expected to suppress anger out of selflessness and subordination. Therapy would focus on understanding this pattern of self-denial and working to relieve the crisis and symptoms that occur as a byproduct of the syndrome.

Other theorists explained women's suppression of anger in similar ways. Miller (1976) viewed suppressed anger in women as related to feelings of powerlessness, and called for women's expression of their anger as a means of empowerment. Williams (1976) and Halas (1981) stated that female gender role socialization and the perceived need to be "ladylike" were the causes of suppressed anger in women. They claimed that women were generally afraid to express their anger because of society's reactions to angry women. Sanford and Donovan (1984) reiterated these points and also stated that women had difficulty expressing anger because they frequently confused anger with hate. "They see anger and hate as one in the same. Thus they have difficulty distinguishing between the two very different statements 'I'm angry with you' and 'I hate you'" (p. 362).

In conclusion, this body of literature clearly viewed women as suppressors of anger. The most common explanation for this view was female gender role socialization and the perception of negative consequences for anger observed in female clinical patients. While the subjugation of women over the centuries can not be disputed, these authors seemed to be making a political statement in their theories of women and anger.

Men and Anger

This independent review of the literature also concurred with Sharkin's (1993) review. In general, clinicians concluded that men over-express their anger and need therapeutic help to better control their anger.

Clinical theories of male anger were also presented in context of gender role socialization. Brannon (1976) suggested four dimensions of the male gender role. These were a) "no sissy stuff" (the avoidance of feminine behavior), b) "the big wheel" (emphasis on status, success, and earning power), c) "the sturdy oak" (the importance of self-reliance), and d) "give 'em hell" (the male focus on aggression, violence, and adventure). Doyle (1983) described five similar components elements of the male sex role. These are the anti-feminine element, the success element, the aggressive element, the sexual element, and the self-reliant element.

The dimension of avoidance of femininity is often used to explain a general pattern of restrictive emotionality in men. Similarly, aggression, or the "give 'em hell" dimension, is used to explain men's over-expression of anger and tendency toward violence. This argument suggested that the only acceptable emotion that men are socialized to express is anger (Levant et al., 1992).

This gender role perspective was used extensively in clinical theorists' conceptualization of male anger. Silverberg (1986) stated that men's propensity to express anger was a socialized defense mechanism against tender feelings. Similarly, Long (1987) and Allen and Gordon (1990) asserted that men are conditioned by society to express anger and repress stereotypically feminine emotions. These authors have viewed male anger as problematic because they found that it often led to rage and violence against women. Heppner and Gonzales (1987) reached a similar conclusion.

> For many men it is easier to allow themselves to express emotions such as anger or rage. In fact a wide range of emotions may be funneled into anger, rage, and violence because these feelings are more acceptable to the male. (p. 32)

In general, this model has led to counseling interventions which stressed anger control and anger management as a key component of therapy with men. The Handbook of Counseling and Psychotherapy with Men (Scher,

Stevens, Good, & Eichenfeld, 1987) expressly stated that the philosophical stance of this guide to treating men was the acknowledgment of the "difficulties and constraints inherent in the male role" (p. 15). The interventions described in this volume all made the assumption that men's anger is a socially conditioned problem that needs to be dealt with.

This paradigm of excessive anger expression is common to many theories of psychotherapy with men. Karsk and Thomas (1987) and Moore (1990) advocated group work to explore anger problems with men. Similarly, Passick, Gordon, and Meth (1990) noted that many men are referred to therapy because they have difficulty controlling their anger. "In our clinical practice, the male client's hostility hovers over many therapy sessions as an ever present yet often unspoken threat. . . . Therefore, helping men to understand and master their anger is a crucial aspect of therapy. (p. 158-159)

In conclusion, this body of literature clearly described men as excessive expressors of anger. Again, the most common explanation for this view was the negative consequences of male gender-role socialization as observed in male therapy patients. Domestic violence and battery were often cited as evidence of men's excessive anger. Additionally, these authors seemed to be making a political statement concerning abuses of male power.

Empirical Theories of Anger and Gender

Quantitative Research

There has been little quantitative research conducted with the direct intention of studying gender differences in the experience and expression of anger (Sharkin, 1993). The majority of the data on anger and gender came from Spielberger's original work on the general nature of anger. Spielberger and his associates (Spielberger et al., 1985) set out to construct an empirical scale to asses the nature of anger. They developed a series of trial scales for state-anger, trait-anger, and anger expression. The anger expression trial items were given to a sample of 1,114 high school students (634 males, 480 females). Factor analysis of the trial scale scores yielded an optimal two factor solution.

This solution became the basis for the Anger Expression Scale, a 16-item scale that classified anger in two dimensions. The first dimension, Anger-In (AX/In), referred to the holding in or internalizing of anger. Examples of AX/In items include "pout or sulk," "hold things in," and "boil inside." The second, Anger-Out (AX/Out), referred to the expression or outward demonstration of anger. Examples of AX/Out items include "lose my temper," "strike out," and "express my anger if someone annoys me."

The Anger Expression scale data from the high school sample did not reveal the pattern of gender differences that

the clinical theorists claimed. In fact, statistically significant F-ratios for the AX/In scales revealed that males had significantly higher scores than did females. No significant gender differences were found on the AX/Out scale. The Spielberger et al. (1985) data revealed that men suppressed anger more than women did, and that men and women showed similar frequency in expressing anger.

Similar patterns, with either slight gender differences or no gender differences, have been found in related studies. For example, Johnson (1984) studied the correlation between elevated blood pressure and anger expression-vs-suppression in adolescents. Results indicated that anger-in scores were strong correlates for elevated systolic blood pressure measures in both men and women. In reviewing a series of his studies with adolescents, Johnson (1990) concluded "adolescent males are more likely than females to suppress their feelings of anger, while both sexes are similar in the degree to which anger is expressed outwardly to other people and objects in the environment" (p. 136). Johnson (1990) reported similar findings in samples of young adult men and women (18-35 years old).

Additional patterns suggesting gender similarity rather than gender difference were found when the scale was applied to special populations. Reporting on a sample of 913 medical and surgical patients (508 males and 405 females),

Spielberger (1991) found similar mean scale Anger-Out scores for women and men. In a sample of 741 prison inmates (565 men and 176 women) Spielberger (1991) reported no significant gender differences on Anger-In measures. Similarly, Stoner & Spencer (1987) administered the Anger Expression Scale to a broad age range of respondents (ages 21-83) and found no significant gender differences for anger expression or suppression.

Survey Research

There has also been little survey research conducted with the direct intention of studying gender differences in the experience and expression of anger. The majority of survey data on anger and gender came from general studies of the everyday experience of anger. Frost and Averill, (1978) interviewed 80 men and women between the ages of 21 and 60 about real life anger experiences and concluded that the women in the study experienced and expressed their anger in much the same manner as men did.

Fitz (1979a, 1979b) surveyed real life anger experiences in a sample of 337 women and men aged 12 to 62 and concluded that men and women were equally likely to suppress or express anger. Averill (1982) conducted a series of four detailed anger studies which combined general survey questions with quantitative rating scales. While these studies were conducted with the intent of obtaining

general data about anger, Averill (1982) also conducted a series of analyses which compared the results of the four studies for women and men and found no consistent pattern of gender difference.

In study 1, Averill gathered descriptive data on the everyday experience of anger from 160 subjects (80 community residents, aged 21 to 60 years, and 80 students). This survey was conducted from the perspective of the angry person. Participants completed a detailed written survey which covered many aspects of the angry experience including target, duration, intensity, and purpose of becoming angry. By using both free response items and forced choice items, Averill captured many facets of the angry experience.

In study 2, Averill set out to obtain normative data on the experience of being a target of another person's anger. The survey from study 1 was rephrased and 80 new student participants were asked about their experience of someone being angry at them. In study 3, 48 student participants were asked to keep a diary recording experiences of both anger and annoyance. Surveys were then conducted on subjects' most intense experience of each to obtain descriminant validity between the constructs of anger and annoyance. Study IV surveyed 235 students to determine the duration of anger in the context of ongoing personal relationships.

These studies generated a wealth of general data on the nature of anger. Averill then compared the responses of men and women from studies 1-4, and after a series of post hoc analyses concluded

> few differences are observed in the everyday experiences of anger. Women become angry as frequently and as intensely as men, for much the same reasons, and with about the same effectiveness . . . when all the evidence is considered, the similarities between men and women are far more striking then are the differences. (p. 311)

In a longitudinal study of 139 mid-life men and women, Thomas (1989) found that men and women did not differ in their likelihood of either expressing or suppressing anger. Similarly, Buehner (1992) conducted a phenomenological study of anger as experienced by 8 men and 8 women and found no clear pattern of gender differences in the experience an expression of anger. Buehner (1992) did note, however, that women and men often attributed different meanings to their experiences of anger.

In conclusion, a search of the empirical literature revealed relatively few empirical studies on anger and gender. The studies that do exist clearly viewed men and women as similar in the domains of anger expression and suppression. After conducting a similar review, Sharkin (1993) also concluded that there have been surprisingly few studies on gender differences in anger and that the results that do exist revealed no clear pattern of gender

differences. Overall, the empirical data simply do not support the clinical theorists' conclusions.

Studies of Anger Suppression and Anger Control

Anger Suppression

This review focused on the physical problems related to anger suppression. This research is correlational in nature and participants were predominately medical patients. Anger suppression was found to be related to medical problems for both women and men. For women, repressing or controlling emotions, especially anger, was positively correlated with breast cancer (Bageley, 1979; Morris, Greer, Pettingale, & Watson, 1981; Watson, Pettingale, & Greer, 1984). For men, repressing emotions was associated with respiratory disturbances (Sahar & Kureshi, 1990) and repressing anger in particular, was correlated with increased blood pressure (Dimsdale, Pierce, Schoenfeld, & Brown, 1986; Holroyd & Gorkin, 1983; Johnson, Spielberger, Worden, & Jacobs, 1987; Mills and Dimsdale, 1993). Apparently, neither gender had an exclusive claim on the domain of anger suppression.

Anger Control

A review of the anger control literature revealed the application of interventions to control problematic anger in both genders. There were strategies applied to gender specific populations including men (Maiuro, 1991; Nakano, 1990), women (Slade, 1989), boys (Hinshaw, Buhrmester, &

Heller, 1989; Lochman, 1992; McDougall, Boddis, Dawson, & Hayes, 1990), and girls (Normand, & Robert, 1990). Additionally, there were strategies applied to non-gender-specific populations including children (Lochman, Nelson, & Sims, 1981; Marion, 1994), adolescents (Wilcox, & Dowrick, 1992), couples (Deschner & McNeil, 1986), and mentally retarded adults (Benson, Rice, & Miranti, 1986).

Although neither gender had an exclusive claim on the domain of anger control interventions, there were some interesting differences in the types of behaviors targeted in these studies. A closer examination revealed that many of the studies involving men and boys were actually about the control of physical aggression, not anger (Hinshaw, Buhrmester, & Heller, 1989; Lochman, 1992; Maiuro, 1991; McDougall, Boddis, Dawson, & Hayes, 1990). The notion that these researchers may have confounded the constructs of aggression and anger is supported by findings that suggested aggression is often mistaken for anger by facility staff (McDougall, Boddis, Dawson, & Hayes, 1990). When the aggression studies were separated out of the anger control research relatively few studies remained, and those that did were generally gender neutral.

Conflict Between Clinical Theories and Empirical Findings

The clinical theories are clearly in direct conflict with both the empirical research on anger and gender and the

studies of anger suppression and anger control. One explanation for this discrepancy suggested by Tavris (1989) is the possibility that the clinical theorists are simply wrong.

> Apparently only a few psychologists have thought to doubt the basic belief that men are much more prone to anger than women. But the research that exists indicates that the impressions of clinicians, male or female, simply does not hold up. That is, neither sex has a special difficulty in expressing anger. (p. 199)

An alternative explanation is that clinicians may be over-generalizing from their patients to the general population. Thomas (1991) suggested that theories of women's anger were based primarily on cases of troubled women in psychotherapy and hence not representative of women in general. Similarly, Sharkin (1993) noted the anecdotal nature of the clinical theories.

> The theoretical views of female and male anger presented here are based primarily on clinical work with clients. That is these theories were developed primarily from observations of women and men who were involved in counseling or psychotherapy. (p. 387)

Another alternative explanation for the discrepancy is the possibility that the clinical observations captured nuances that the empirical research missed. Perhaps the empirical tools were simply not sensitive enough to measure the gender differences that really existed. Averill (1982) addressed this sensitivity issue by noting that his studies were designed with an internal system of checks and balances in

an attempt to overcome distortions and response biases and concluded

> Of course any methodology has its limitations. This is certainly true of surveys using questionnaires; but it is also true of laboratory experiments, field observations, and the like. Moreover, well-designed questionnaires can provide information that would be difficult or impossible to obtain in any other fashion. (p. 157)

Similarly, Spielberger (1991) demonstrated that the quantitative anger instruments were reliable and valid measures of the dimensions of anger expression and suppression.

A remaining explanation for the discrepancy is suggested by Sharkin:

> It may be that gender differences with anger exist within clinical populations, whereas few such differences are observed within non-clinical populations (1993, p. 388)

This explanation suggests that both camps could be correct because of distinct differences between the populations that they studied. While Sharkin does not address the reason for these differences, he does call for more empirical studies. "Few direct systematic studies have been done to test the notion that women and men differ significantly in the experience and expression of anger" (p.387). This project attempted to conduct a direct systematic study to examine possible reasons for the differences between the clinical and empirical findings.

A permission paradigm based on Thomas' and Sharkin's notions of bias was proposed. It was hypothesized that the clinical subjects may have self-selected for therapy because they came from environments where they were not free to express their emotions. In contrast, the empirical subjects were not in therapy and may not have had this constraint. This permission paradigm was then tested via a controlled experimental design.

CHAPTER 3
METHOD

Pilot Study

Participants

Participants were students taking undergraduate psychology courses who were asked to partake in a psychology experiment for extra credit (N = 153). They were told that they would be asked to attempt to solve a few logic problems and fill out a survey. Additionally, they were assured that they would be answering the survey anonymously.

Procedure

Prior to beginning the experiment, all participants were first read an informed consent statement. Next, participants received an answer sheet and one of four possible research packets which corresponded to the four conditions in the study. Random assignment to condition was achieved via random ordering and distribution of the research packets. Participants were then asked to record a form code (1-4) from their packet on their answer sheets. Participants were given 5 minutes to solve the problems and were told that all problems were easily solvable. In order to increase motivation, they were told that they would get additional points for correctly solving all problems (in

reality, all participants were given the maximum number of points). After solving the problems, participants were asked to write their names on their problem sheets and hand them in. Participants' names were used on problem sheets to assure assignment of extra credit; however, all answer sheets remained anonymous.

Next, participants completed the Multiple Adjective Affect Checklist (MACCL), the State anger (S-Anger) items from the State Trait Anger Expression Inventory (STAXI), the Personal Attributes Questionnaire (PAQ), and a brief general survey of participants' experience of the experiment. This final survey contained both the manipulation check items and general questions about the research. Participants were encouraged to answer all of the survey questions, but were told that they would receive full credit if they decided not to answer a particular question. After completing the surveys, participants were thanked and debriefed.

In the debriefing, the research hypotheses and the experimental manipulations were fully disclosed. Participants were told that the research hypotheses were not explained prior to the experiment because that might have adversely affected their ability to respond naturally. At this point, participants were informed that they would receive the same amount of extra credit regardless of the number of correct answers given on the logic problems.

Participants were also given the option of contacting the examiner directly for further clarification if they so desired.

Independent Variables

The pilot study employed three discrete pairs of independent variables: a) gender, b) the presence or absence of a frustrating (anger inducing) event, and c) the instructions to either express or suppress emotion. Additionally, a fourth pair of independent variables, masculinity-femininity, was added to allow for post-hoc analyses that allowed gender role identification (determined by masculine versus feminine personality trait scores) to be used in place of biological gender in the data analysis.

Gender. The first independent variable, gender, was determined by respondents' endorsement of the item "male" or "female" on the research answer sheet.

Presence or absence of a frustrating (anger-inducing) event. The second independent variable, presence or absence of a frustrating (anger-inducing) event, was determined by experimental manipulation. All participants were given a set of six problems. Regardless of condition, all problems were described as easily solvable. In the "not frustrated" manipulation (absence of a frustrating or anger inducing event), the six problems were actually easily solvable. Examples of these solvable problems include the following:

"A man and a woman are watching the sunset. The woman is the man's brother's daughter. What is the woman's relation to the man?" and "What number, times itself three times, equals 8?".

In the "frustrated" manipulation (presence of a frustrating or anger inducing event), the six problems appeared solvable but were actually not solvable. Examples of these unsolvable problems include the following: " What would logically come next in this sequence: S30 N31 O30 __ ?" and "Imagine that the string of letters below is a circle that contains a word of eight letters with one letter missing. Replace the missing letter to read the word. It may read counterclockwise or clockwise, but the letters are in the proper order: A N T H E N A _ ?"

Rationale. The use of unsolvable intellectual problems that are presented as easily solvable is a well documented method for frustrating participants and inducing anger. In a study of coping strategies of dysphoric patients, Baldaszti and Opgenoorth, (1988) used unsolvable problems to provoke anger in participants. Similarly, in a study of defenses of drug abusers, Gordon (1980) used unsolvable problems to frustrate participants and used solvable problems as a control. In a study of hostility and cardiovascular stress, Weidner, Friend, Ficarrotto, and Mendell (1989) used unsolvable problems as a means to induce

stress and noted that participants with hostility reactions reported higher anger scores in response to the unsolvable problems. This technique has also been used to provoke arousal in studies of smoking behavior (Pomerleau, Turk, & Fertig, 1984), child abuse behavior (Casanova, Domanic, McCanne, & Milner, 1992) and children's type A behavior (Matthews & Angulo, 1980).

Expression versus suppression of emotion. The third independent variable, express versus suppress emotion, was manipulated by varying permission to express emotion. Permission was varied by printing different sets of instructions in large boldfaced type at both the top and the bottom of the page where the logic problems were located. In the express manipulation, the instructions at the top of the page were "Feel free to respond openly" and the instructions at the bottom of the page were "Feel free to respond openly and naturally." In the suppress manipulation, the instructions at the top of the page were "Maintain your composure" and the instructions at the bottom of the page were "Maintain a level head and keep your composure."

Masculinity-femininity. The fourth independent variable, masculinity-femininity, was determined by scores on the Personality Attributes Questionnaire (PAQ), a measure of stereotypically masculine and feminine gender role

traits. PAQ items are bipolar in nature with stereotypically masculine responses at one pole and stereotypically feminine responses at the other. This scale yields a PAQ-M sub-scale score for masculinity, a PAQ-F sub-scale score for femininity, and a PAQ-MF sub-scale score for masculinity-femininity (both qualities being equally present). This instrument allows either men or women to be identified as predominantly masculine, predominantly feminine, or predominantly androgynous. Examples of these bipolar items include: "Not at all aggressive . . . Very aggressive," "Very home oriented . . . Very worldly," and "Goes to pieces under pressure . . . Stands up well under pressure." Each sub-scale ranges in score from 0 to 32, with higher scores indicating greater levels of masculinity, femininity, or androgyny.

Reliability and validity. Reliability of the PAQ is well documented. Spence, Helmreich, and Stapp (1974) reported 24 item PAQ (used in this study) sub-scale test-retest reliability in the .65 to .91 range. Similarly, Spence and Helmreich (1978) reported Cornbach alpha values for sub-scale scores of male and female college students in the range of .78 to .85.

Validity scores are also well documented. Factor analyses of the PAQ support optimal two factor solutions which support the PAQ-M and PAQ-F scales (Helmreich, Spence,

& Wilhelm, 1981; Wilson & Cooke 1984). Convergent and discriminant validity was thoroughly researched by Spence and Helmreich (1978). Empathy measures were shown to correlate significantly positively with PAQ-F sub-scale and significantly negatively with PAQ-M sub-scale scores. Similarly, measures of mastery and competitiveness were found to be significantly positively correlated with the PAQ-M sub-scale scores and much less correlated with the PAQ-F sub-scale scores.

Dependent Variables

The three dependent variables were hostility, depression, and state anger. The research hypotheses postulated a response to frustration and prohibition of expression at a given point in time; therefore, state measures of hostility, depression, and anger were used. While there are a majority of other measures available for these constructs, most are trait measures. Kelly (1972) notes that one unique characteristic of the MACCL is that the Today form permits the measurement of state levels of negative affect. For this reason, the hostility and depression sub-scales of the Multiple Affect Adjective Checklist--Revised (MACCL-R), Today form was used.

The MACCL-R Today form instructs participants to check the words which describe "how you feel now--today". These directions are followed by a list of adjectives that

describe feelings such as alone, destroyed, discouraged, forlorn, lonely, lost, and miserable (depression sub-scale)--and angry annoyed, complaining, critical, cross, cruel, and disagreeable (hostility sub-scale). These items were imbedded in a larger set of MACCL-R items from the other sub-scales (anxiety, positive affect, and sensation seeking). The depression sub-scale can range in score from 0 to 12. The hostility sub-scale can range in score from 0 to 15. Higher scores indicate higher levels of depression and hostility.. Given time limitations in data collection, the full 132-item form was not be used.

Reliability and validity. The MACCL has been used since 1965, with revised forms developed in 1985. Both reliability and validity are generally considered to be high. Zuckerman and Lubin (1985) reported internal reliability (Alphas) for the state sub-scales for the MACCL-R on college samples ranging from .75 to .82, and .77 to.83, for depression and hostility respectively. As would be expected, Zuckerman and Lubin reported low test-retest reliability for the state form sub-scales and high test-retest reliability for the trait form. Lubin et al. (1986) reported similar test-retest results.

Zuckerman and Lubin (1985) also tested MACCL-R convergent and discriminant validity by constructing five self-rating scales that correlated with the MACCL-R state

and trait sub-scales. Additionally, MACCL-R state sub-scale scores were compared to Minnesota Multiphasic Personality Inventory (MMPI) sub-scale scores for both inpatient and clinic populations. State depression sub-scale correlation were .60 with state self ratings of "sad" ($p<.001$), and .68 with clinic patients' MMPI depression scale scores ($p<.001$).

When state hostility sub-scale scores were examined, the results were less favorable. Hostility sub-scale score correlation was .51 with state self ratings of "angry" ($p<.001$). There is no specific MMPI anger scale score. Unfortunately, the state hostility sub-scale showed poor discriminant validity as it had a .59 correlation with state self-ratings of "sad" ($p<.001$) and a .63 correlation with clinic patients' MMPI depression scale scores ($p<.001$). Additional research on the MACCL-R also questions discriminant validity (Gotlib & Meyer 1986).

In a review of the MACCL-R, Kelly (1972) addressed the discriminant validity question by noting that anxiety, depression, and hostility may simply be related emotions. If this is the case, the intercorrelations may not be due not to flaws in the instrument but to the nature of the constructs being measured. Subsequent studies have concluded that both the state and trait forms of the MACCL-R have sufficient reliability and concurrent validity for use in research and clinical settings (Lubin, Cain,

Van-Whitlock, 1992; Lubin, Rahaim, Rinck, Nickel, 1991; Nickel, Lubin, & Rinck, 1986). In fact, over one thousand studies have used various forms of the MACCL (Lubin, Swearington, & Seaton 1991), and there is evidence to support the improved discriminant validity of the MACCL-R over earlier forms of the MACCL (Lubin, Zuckerman, Hanson, & Armstrong, 1986).

After reviewing the MACCL-R validity data, it seems clear that the instrument is valid. There may be issues with sub-scale correlation, particularly concerning discriminant validity in the hostility sub-scale. This may be due to the fact that the state emotions being assessed are simply related, however it is still an important issue.

Because of the issues of descriminant validity of the MACCL hostility scale, the State Anger Sub-scale (S-Anger) from the State-Trait Anger Expression Inventory (STAXI) was added as an additional measure of state anger. The S-Anger Sub-scale of the STAXI is made up of 10 items which measure situational anger. Sample items include "I am furious," I feel irritated," and "I feel angry." The S-Anger Sub-scale scores can range from 10 to 40, with higher scores indicating higher levels of state anger.

Reliability and validity. Spielberger (1988) reported high reliability for the S-Anger sub-scale. This was evidenced by high internal consistency measures. Alpha

coefficients were .93 for both sexes, and item remainder coefficients were .68 (median for both sexes). Additionally, factor analyses of the S-Anger sub-scale revealed single factor solutions for both sexes. Subsequent factor analyses by other researchers have revealed similar results for this instrument (Fuqua, Leonard, Masters, & Smith, 1991).

Fewer data on convergent and discriminant validity of the S-Anger sub-scale are readily available. Crane (1981) has shown that hypertensive people displayed higher S-Anger (and state-anxiety) scores after completing a frustrating task. Additionally, Spielberger (1988) reported that S-Anger scores were found correlated with state anxiety measures (.63 for men and women, $p<.001$).

Manipulation Check

The efficacy of the express versus suppress emotion manipulation was addressed via a series of manipulation check items imbedded in the brief general survey of participants' experiences during the study. Sample manipulation check items for the express-suppress manipulation included "My responses were inhibited in some way," "Overall, I was free to respond honestly," and "The examiners encouraged honest feedback." Sample manipulation check items for the frustrated-not frustrated manipulation include, "I found the logic problems conceptually easy," "I

was quickly able to solve the logic problems," and "this study was frustrating." Sample mock items include, "I found this experience interesting," "the room was well lit," and "I liked this study."

Analysis

A factor analysis of the manipulation check items was conducted to construct scales that corresponded to each of the experimental conditions. A pair of t-tests was used to determine the efficacy of the factor-analytically derived manipulation check scales.

Main Study

Participants

Participants were students all taking the same undergraduate psychology class in personal adjustment. They were asked to participate in an in-class experiment for extra credit (N = 300). Ten participants were dropped from the study for failing to record either their sex or their experimental group on the answer sheets. Of the 290 remaining participants, 101 were men and 189 were women (34.8% and 56.2% respectively). The mean age was 19.6 years (SD = 2.8). Participants' racial and ethnic mix was 77.9% White, 10.3% Hispanic, 5.2 % African-American, 4.5% Asian-American, and 2.1% Other.

Procedure

The main study procedure was nearly identical to that of the pilot study with two important exceptions. First, directly following the problems, participants were asked to complete a free response sheet, and second, the brief general survey of participants' experiences during the study was expanded to allow for additional manipulation check items.

Independent Variables

The main study employed the same three discrete pairs of independent variables, with one important exception. The manipulation of the third pair of independent variables (the instructions to either express or suppress emotion) was improved. The manipulation used in the pilot study was originally thought to be sufficient to achieve the desired suppression effect. Analysis of manipulation check items in the pilot study revealed that the express-suppress manipulation was weak (see results section). The decision was made to strengthen the manipulation of the third independent variable in the main study.

The variable express-suppress emotion was manipulated in the main study by varying both permission to express emotion and varying the presence or absence of the actual opportunity to express emotion. Permission was varied again by printing instructions in large boldfaced type at both the

top and the bottom of the page where the logic problems are located, and again on the free response sheet. Presence or absence of the opportunity to express emotion was varied using different forms of the written free response sheet.

In the express manipulation, the instructions at the top of the page were "Feel free to respond openly" and the instructions at the bottom of the page were "Feel free to respond openly and naturally." Additionally, the opportunity to express emotion was actually present. The free response sheet that followed the logic problems asked participants to express their emotions by writing them out on the sheet. The directions were as follows: "Please use the space below to express any thoughts or feelings that you may have after doing the study. We care about your emotional reaction to the task. All responses will remain anonymous." The instructions "Feel free to respond openly and naturally" were repeated on the bottom of the free response sheet.

This new express manipulation was stronger than the pilot manipulation in three key ways. First, participants are exposed to the directions "Feel free to respond openly and naturally" twice in the main study but once in the pilot study. Second, the directions for the free response sheet were designed to convey maximum permission and encouragement for emotional expression. The phrase, "Please use the space

below to express any thoughts or feelings that you may have after doing the study," explicitly conveyed overt permission to express emotion. Additionally, the phrase, "We care about your emotional reaction to the task," conveyed both concern about, and interest in, participants' feelings. Lastly, the free response sheets gave participants the actual opportunity to actually express their feelings in writing.

In the suppress manipulation, the instructions printed at the top of the page were "Please remain quiet and keep your feelings to yourself," and the instructions at the bottom of the page were "Remember: Keep your feelings to yourself!" In this condition, the opportunity to actually express emotion was absent. Instead, the free response sheet that followed the logic problems asked participants to fill in their daily schedule according to class period. The instructions "Please remain quiet and keep your feelings to yourself!" were repeated on the bottom of the free response sheet.

This new suppress manipulation was also stronger than the pilot manipulation in three key ways. First the directions "Please remain quiet and keep your feelings to yourself," and, "Remember: Keep your feelings to yourself!," were far stronger than those in the pilot manipulation which simply told participants to "keep a level head." Second,

the suppress instructions were repeated again on the free response sheet, giving participants in the main study two exposures to the suppress instructions. Lastly, the free response sheet used in the suppress manipulation gave participants no opportunity to express emotion. In fact, the transition to a rigidly structured task (quietly listing their schedule according to stated university class periods) did not even allow them to relax and process the experience of being frustrated.

Manipulation Check

Because the express versus suppress emotion manipulation was changed, a series of new manipulation check items was added to test the efficacy of the improved manipulation. These items were imbedded in the same brief general survey that was used in the pilot study. Examples of new manipulation check items included, "At times I felt frustrated, but at least I could get my feelings out in the study," "The study gave me the opportunity to express my own thoughts and feelings openly," "The examiners did not really care how I felt during the study," and "I felt the examiners were genuinely interested in my reactions to the study."

Design and Analysis

This project employed a 2 (men versus women) X 2 (anger versus no anger) X 2 (express versus suppress emotion) between-subjects factorial design. Participants were

randomly assigned to one of four experimental conditions. In the first condition the problems were unsolvable, and participants were told to suppress any expression of their feelings. In the second experimental condition, the problems were solvable, and participants were still told to suppress their emotions. In the third condition the problems were again unsolvable intellectual problems, but participants were told to express their feelings. In the fourth condition the problems were solvable, but participants were told to express their feelings. Analyses of variance (ANOVA's) were used to test the research hypotheses. Additional post hoc analyses were performed to augment these ANOVA's.

CHAPTER 4
RESULTS

Pilot Test of Manipulations

Factor analysis was conducted to test the construct validity of manipulation check items that were written to assess the frustration and suppression manipulation. A principle components analysis was conducted, with frustration, suppression, and filler items included in the analysis. Three factors emerged in a scree test (see Figure 4-1 and Table 4-1). Next, a three-factor SAS Varimax rotation was conducted and only items that produced simple structure were retained. Simple structure was defined as one and only one factor loading with an absolute value of .4 or greater and no other loading of more than an absolute value of .30.

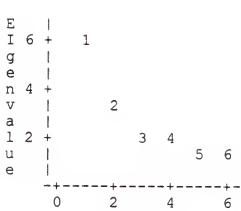

Figure 4-1. Scree Plot of Eigenvalues

Table 4-1. Eigenvalues of the Correlation Matrix

	1	2	3	4	5	6
Eigenvalue	6.00	3.57	2.18	1.87	1.20	1.01
Difference	2.42	1.40	0.31	0.68	0.18	0.13
Proportion	0.25	0.15	0.10	0.08	0.05	0.04
Cumulative	0.25	0.40	0.49	0.57	0.62	0.66

Twenty of the 24 items were retained. Nine items achieved their primary loading on Factor 1, six on Factor 2, and five on Factor 3. Factor 1 apparently tapped the factor of like-dislike and included items such as "I found this experience interesting," and "I feel good having done this study." Factor 2 clearly emerged as the factor tapping expression-suppression. Example items include, "I felt free to express my feelings openly," and, "The examiners encouraged honest feedback." The third factor clearly tapped the frustration dimension. Example items include, "I wish I could clobber the person that wrote this," and, "I wanted to tear this survey up and walk out" (see Table 4-2 for items and their factor loadings). Internal consistency coefficients that were calculated for each of the resulting scales demonstrated satisfactory levels of internal consistency reliability for all three scales. The Factor 1 coefficient alpha was .83, for Factor 2 the alpha coefficient was .82, and for Factor 3 the alpha coefficient was .80.

Table 4-2. Rotated factor loadings of items retained using a Varimax rotation. Rotation Method: Varimax

	Factor 1	Factor 2	Factor 3
I found this experience interesting.	0.67	0.14	0.01
I feel good having done this study.	0.66	0.09	0.05
I found the logic problems conceptually easy.	0.54	0.04	-0.19
Doing the study made me feel smart.	0.70	-0.13	0.10
I was quickly able to solve the logic problems.	0.53	0.02	-0.10
I learned from the study.	0.46	-0.12	0.04
This study was fun.	0.75	0.14	-0.09
I would recommend this study to others	0.79	0.05	-0.03
I feel positive about the study.	0.73	0.30	-0.19
I felt free to express my feelings openly.	-0.03	0.71	-0.11
The instructions were clear and concise.	0.25	0.66	-0.02
The examiners encouraged honest feedback.	0.10	0.61	0.04
The examiners were appropriate and professional.	0.11	0.76	-0.18
I was free to respond honestly.	-0.12	0.73	-0.23
The directions were clear.	0.15	0.77	-0.12
I wish I could clobber the person that wrote this.	-0.11	-0.17	0.73
I wanted to tear this survey up and walk out.	-0.24	-0.03	0.68
I gritted my teeth throughout the study.	-0.01	-0.01	0.73
This study was frustrating.	-0.29	-0.02	0.70
I clenched my fists throughout this study.	0.14	-0.27	0.75
Variance explained by each factor	4.62	3.71	3.41

Factor 2 items were summed to form the manipulation check for the express-suppress manipulation and ranged from 6 to 30, with higher scores indicating greater suppression. Factor 3 items were summed to form the manipulation check for the frustrate-no frustrate manipulation and ranged from 5 to 25 with higher scores indicating greater frustration. Because Factor 1 measured something distinct from either expression-suppression or frustration-no frustration, it could serve no clearly useful function as a manipulation check.

Evidence of the effectiveness of the key manipulations was mixed, based on the results of the Factor 2 scale and the Factor 3 scale. Factor 2, measuring the effectiveness of the express-suppress manipulation, revealed that this manipulation was ineffective, $t(152) = 1.15$, $p < .26$, with participants in the express conditions (mean = 23.59, SD = 5.39) scoring very similarly to those in the suppress conditions (mean = 24.58, SD = 5.34). On the other hand, the manipulation of frustration, as measured by the Factor 3 scale, provided clear support for the effectiveness of that manipulation, $t(152) = 2.45$, $p < .02$, with participants in the frustrate conditions (mean = 10.12, SD = 4.39) scoring significantly higher than those in the no-frustrate conditions (mean = 8.25, SD = 4.46). This revealed that the frustration manipulation needed little additional refinement, whereas the suppression manipulation needed retooling.

Factor Analysis for the Main Study

In the main study, factor analysis was again conducted to assess the construct validity of the items that were written to test the new express-suppress manipulation. It was necessary to conduct this second factor analysis because additional items were added to the pool of potential manipulation check items. Additionally, it was important to rule out any sample-specific loadings from the pilot data. Again, a principle components analysis was conducted, with frustration, suppression, and filler items included in the analysis. As expected from the earlier factor analysis, three factors emerged in a scree test (see Figure 4-2 and Table 4-3). Next, another three-factor SAS Varimax rotation was conducted and, as before, only items that produced simple structure were retained. Simple structure was again defined as one and only one factor loading with an absolute value of .4 or greater and no other loading of more than an absolute value of .30.

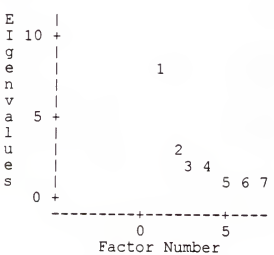

Figure 4-2. Principal Components Scree Plot of Eigenvalues

Table 4-3. Eigenvalues of the Correlation Matrix

	1	2	3	4	5	6	7
Eigenvalue	8.12	3.07	2.33	1.70	1.43	1.13	1.12
Difference	5.05	0.75	0.63	0.26	0.31	0.14	0.13
Proportion	0.27	0.10	0.08	0.06	0.05	0.04	0.04
Cumulative	0.27	0.37	0.45	0.51	0.56	0.59	0.63

This time twenty-five of the 30 items were retained. Ten items achieved their primary loading on Factor 1, nine on Factor 2, and six on Factor 3. Again, Factor 1 apparently tapped the factor of like-dislike and included items such as "I feel good having done the study," and, "This was a positive experience." Again, Factor 2 clearly emerged as the factor tapping expression-suppression. Example items include, "After doing the problems I was free to express any negative feelings that I had," and, "I felt the examiners were genuinely interested in my reactions to the problems." Finally, the third factor again clearly tapped the frustration dimension. Example items include, "I wanted to tear this survey up and walk out," and, "This study was frustrating" (see Table 4-4 for items and their factor loadings). Internal consistency coefficients were again calculated for each of the resulting scales and this time, too, they demonstrated satisfactory levels of internal consistency reliability for all three scales. For Factor 1, the coefficient alpha was .87, for Factor 2 the alpha coefficient was .80, and for Factor 3 the alpha coefficient was also .80.

Table 4-4. Varimax Rotated Factor Pattern

	Factor 1	Factor 2	Factor 3
I feel good having done this study.	0.64	0.29	-0.17
I found the logic problems conceptually easy.	0.67	-0.09	-0.28
This was a positive experience.	0.71	0.19	-0.32
Doing the study made me feel smart.	0.76	-0.02	-0.05
I was quickly able to solve the logic problems.	0.71	-0.09	-0.21
I would be in another study like this one in the future.	0.53	0.35	-0.25
I learned from the study.	0.46	0.18	0.20
This study was fun.	0.77	0.25	-0.09
I would recommend this study to others.	0.59	0.41	-0.18
I feel positive about the study.	0.74	0.29	-0.27
I felt free to express my feelings openly.	0.13	0.41	-0.09
The instructions were clear and concise.	0.12	0.42	-0.31
After doing the problems, I was free to express any negative feelings that I had.	0.06	0.69	-0.16
I felt that the examiners were genuinely interested in my reactions to the problems.	0.20	0.56	0.11
The examiners were appropriate and professional.	0.19	0.47	-0.31

Table 4-4--continued.

	Factor 1	Factor 2	Factor 3
The study gave me the opportunity to express my own thoughts and feelings openly.	0.21	0.70	-0.05
I was able to share my feelings in the study.	0.10	0.76	-0.11
I was free to respond honestly.	0.03	0.59	-0.24
I wanted to tear this survey up and walk out.	-0.35	-0.21	0.61
My responses were inhibited in some way.	0.02	-0.11	0.59
I gritted my teeth throughout the study.	-0.09	-0.03	0.73
This study was frustrating.	-0.42	0.01	0.63
I clenched my fists throughout this study.	-0.06	-0.11	0.75
I wish I could clobber the person that wrote this.	-0.20	-0.23	0.60
Variance explained by each factor	5.12	4.60	4.80

As in the pilot study, Factor 2 items were summed to form the manipulation check for the express-suppress manipulation (range 0 to 36, higher scores indicate more suppression). Factor 3 items were summed to form the manipulation check for the frustrate-no frustrate manipulation (range 0 to 24, higher scores indicate more frustration). As before, Factor 1 was not used because it measured something distinct from either expression-suppress or frustrate-no frustrate.

Manipulation Checks

Clear evidence of the effectiveness of the key manipulations resulted from the use of the Factor 2 scale and the Factor 3 scale. Both the frustration and suppression manipulations were apparently perceived by participants as intended.

An ANOVA was performed, in which sex, frustrate-no frustrate, and express-suppress served as the independent variables and the Factor 2 scale served as the dependent variable. As anticipated, a significant main effect for express-suppress, $F(1, 278) = 17.58$, $p < .0001$, was found. Participants in the express conditions scored significantly higher (mean = 2.92, SD = 0.73; higher scores indicate greater freedom to express, ranging from a low of 0 to a high of 4) than those in the suppress conditions (mean = 2.48, SD = 0.79). The only other main or interactive effect

that reached significance was a main effect for frustrate-no frustrate. This was only half the magnitude of the express-suppress main effect, $F(1, 278) = 8.49$, $p < .004$. Participants in the frustrate conditions (mean = 2.60, SD = 0.83) scored significantly lower than those in the no frustration conditions (mean = 2.87, SD = 0.68). No other main or interactive effects reached significance, all other Fs < 1.25.

A second ANOVA was performed in which sex, frustrate-no frustrate, and express-suppress again served as the independent variables, but this time the Factor 3 scale served as the dependent variable. This analysis showed, as anticipated, that there was a significant main effect for frustrate-no frustrate, $F(1, 276) = 39.71$, $p < .0001$. Participants in the frustrate conditions scored significantly higher (mean = 1.57, SD = 0.98; higher scores indicate greater frustration, ranging from a low of 0 to a high of 4) than those in the no-frustrate conditions (mean = 0.77, SD = 0.79). No other main or interactive effect reached significance, all Fs < 3.61.

Hypothesis Tests

To test Hypothesis 1, which posits that women and men will not differ in the frustrated-express emotions cell on measures of depression, hostility, and anger, a one-way multivariate analysis of variance (MANOVA) was conducted.

Frustrate-express males and frustrate-express females served as the two levels of the single independent variable and measures of depression, hostility, and anger served as the dependent variables. In addition, three ANOVAs were performed. Again, frustrate-express males and frustrate-express females served as the two levels of the single independent variable, and depression, hostility, and anger served as a dependent variable in each of these analyses. Results of the MANOVA clearly support the hypothesis, Wilks' Lambda $F(3, 97) = 1.33$, $p < .27$, as do the results of the three individual ANOVAs, all of which failed to reach statistical significance, MAACLD $F(1, 99) = 2.50$, $p < .12$, MAACL-H $F(1, 99) = 0.81$, $p < .38$, STAXI $F(1, 99) = 0.00$, $p = .99$.

To test Hypothesis 2, which posits that women and men will differ significantly in the frustrated-suppress emotions cell on measures of depression, hostility, and anger, a one-way multivariate analysis of variance (MANOVA) was conducted. Frustrate-suppress males and frustrate-suppress females served as the two levels of the single independent variable. And measures of depression, hostility, and anger served as the dependent variables. In addition, three ANOVAs were performed. Again, frustrate-suppress males and frustrate-suppress females served as the two levels of the single independent variable and measure of

depression, hostility, and anger served as a dependent variable in each of these analyses. Results of the MANOVA failed to support the hypothesis, Wilks' Lambda $F(3, 83) = 1.00$, $p < .40$, as did the results of the three individual ANOVAs, all of which failed to reach statistical significance, MAACLD $F(1, 85) = 1.36$, $p < .25$, MAACL-H $F(1, 85) = 2.76$, $p < .11$, STAXI $F(1, 85) = 0.80$, $p = .38$.

Hypothesis 3 was tested using the same analyses that tested Hypothesis 2. Because Hypothesis 3 predicted the direction of the significant differences in Hypothesis 2 and because there were no significant differences found, Hypothesis 3 also was not supported by these analyses.

To provide the most thorough set of analyses of the concepts that underlie the predictions of Hypotheses 2 and 3, another MANOVA and series of ANOVAs was conducted with the independent variable at three levels. The three levels were frustrate-suppress males, frustrate-suppress females, and a control group consistent of members of all the remaining cells. These analyses also failed to support the hypotheses. Neither the frustrate-suppress-males nor the frustrate-suppress-females differed from the control group or each other on any analysis. MANOVA Wilks' Lambda $F(6, 568) = 0.63$, $p < .71$, Individual ANOVAs: MAACLD $F(2, 286) = 0.56$, $p < .58$, MAACL-H $F(2, 286) = 1.53$, $p < .22$, STAXI $F(2, 286) = 0.51$, $p = .60$.

To test Hypothesis 4, which posits that the male-female patterns predicted in Hypotheses 1-3 will also be obtained when gender role is substituted for sex, median split analyses using the PAQ-M and PAQ-F were performed. These splits were based on the medians reported by Spence and Helmreich (1978; PAQ-M = 20, PAQ-F = 23); however, the current sample's medians were close to the norm sample's median (current sample PAQ-M median = 20, PAQ-F median = 24). These splits resulted in 136 of the participants in the low PAQ-M cell and 154 in the high PAQ-M cell, and 124 of the participants in the low PAQ-F cell and 166 in the high PAQ-F cell.

Three one-way analyses of variance (ANOVAs) were employed to test this hypothesis, one ANOVA for each of the three main dependent variables (MAACLD, MAACLH, STAXI). The three levels of the independent variable were high-masculinity, low-femininity, frustrate, suppress versus low-masculinity, high-femininity, frustrate, suppress versus all others. For this hypothesis to be supported, the ANOVA should result in a significant interaction in which participants in the high masculinity, low femininity, frustrate, suppress cell would score significantly higher than other participants on the MAACL-H and STAXI. In addition, participants in the low masculinity, high femininity, frustrate, suppress cell should score

significantly higher than other participants on the MAACL-D. The ANOVAs did not show a pattern of support for this hypothesis. On all three of the measures, the one-way ANOVA failed to reach or approach conventional levels of statistical significance, MAACL-D $F(2, 287) = 2.14$, $p < .20$); MAACL-H $F(2,287) = 1.07$, $p < .35$; STAXI $F(2, 287) = 0.15$, $p < .90$; see Table 4-5 for means and standard deviations for all main study continuous variables).

Sex Differences

To test for systematic sex differences in responses to the dependent variables and manipulation check items, the five ANOVAs in which sex served as an independent variable along with frustrate-no frustrate and express-suppress were inspected. The results of those ANOVAs revealed only one significant main effect and no significant interactive effect for sex. The only main effect occurred on the STAXI, $F(1, 281) = 4.18$, $p < .05$, where men scored significantly higher (mean = 15.0, SD = 7.17) than women (mean = 13.68, SD = 5.09).

Table 4-5. Means and Standard Deviations for Main Study Continuous Variables

Variable	N	Mean	Std. Dev.
MAACLD	290	2.34	2.75
MAACLH	290	3.49	3.58
STAXI	289	14.12	5.91
PAQM	289	20.77	4.00
PAQF	289	23.90	4.45
PAQMF	289	18.96	3.89
LIKE	285	1.62	1.00
EXPRESS	286	2.70	0.79
FRUSTRA	284	1.29	0.99

Note:
MACCLD = Multiple Affect Adjective Checklist, Depression subscale
MAACLH = Multiple Affect Adjective Checklist, Hostility subscale
STAXI = State Trait Anger Expression Inventory, State Anger subscale
PAQM = Personal Attributes Questionnaire, Masculinity
PAQF = Personal Attributes Questionnaire, Femininity
LIKE = Factor 1 Scale Score
EXPRESS = Factor 2 Scale Score
FRUSTRA = Factor 3 Scale Score

CHAPTER 5
DISCUSSION

The first experimental hypothesis predicted no significant gender differences in measures of state levels of depression, hostility, and anger in conditions where women and men were not frustrated and not told to suppress their emotions. This hypothesis, which was presented to explain the findings of the empirical theorists who found no gender differences in their studies, was supported.

The second experimental hypothesis predicted significant gender differences in measures of state levels of depression, hostility and anger in conditions where women and men were frustrated and told to suppress their emotions. This hypothesis, which was intended to explain the findings of the clinical theorists who reported gender differences in their therapy patients, was not supported.

The third experimental hypothesis predicted the direction of the differences expected in the second hypothesis. This hypothesis, which was intended to capture the pattern of gender differences that the clinical theorists reported, was not supported.

Before concluding that there were no significant gender differences in the study, a broader analysis of hypotheses 2 and 3 was conducted. The two key cells (frustrate-suppress males and frustrate-suppress females) and a control group made up of all other cells were used as the independent variables in a three way analysis. The key cells did not differ from each other or the control group. This strengthened the conclusion that none of the expected gender differences were present. An additional post-hoc analyses of overall sex effects found no significant pattern of sex differences across conditions in the study.

The fourth experimental hypothesis predicted that the same patterns expected in hypotheses 2 and 3 would be present if gender role dimensions of masculinity and femininity were substituted for biological sex as an independent variable. This hypothesis, which was included in anticipation of the criticism that gender role identification might account for differences instead of biological sex, also was not supported. There was one significant effect found in an ancillary cell, which was not part of the initial hypotheses.

Taken together the results of the analyses of hypotheses 1-4 suggested that there was no significant

pattern of gender differences in the study. Neither biological sex nor degree of masculinity or femininity accounted for any significant differences in the dependent variables. While it is tempting to begin interpreting these results, it is important to address the possibility of type two error and also determine if the design was a valid test of the hypotheses.

Possible sources of error would include inadequate statistical power, insensitive instruments, careless procedures, and bias (Heppner, Kivlighan, & Wampold, 1992). Because of the extremely low F values and relatively high N, power does not seem to be an issue. Certainly, with an infinitely large number of subjects, some effect might be found. But this effect would probably not be clinically significant. A formal power test was not conducted because no previous study like this was found, so effect size estimates were not available.

The instruments used were sufficiently sensitive and had been previously determined to be reliable and valid measures of the constructs in this study. (PAQ: Helmreich, Spence, and Wilhelm, 1981; Spence, Helmreich, & Stapp, 1974; Wilson and Cooke 1984. MACCL-R: Kelly, 1972; Lubin, Cain, Van-Whitlock, 1992; Lubin, Rahaim, Rinck, Nickel, 1991;

Lubin, Swearington, & Seaton, 1991; Lubin, Zuckerman, Hanson, Armstrong, 1986; Lubin, Zuckerman, Hanson, Armstrong, et al., 1986; Nickel, Lubin, & Rinck, 1986; Zuckerman & Lubin, 1985. STAXI: Fuqua, Leonard, Masters, Smith, 1991; Spielberger, 1988.) Experimental procedures were carefully conducted, and random assignment was used to eliminate any possible biases that might occur.

Heppner, Kivlighan, and Wampold (1992) also cautioned that poorly designed independent variables can account for null findings and called for detailed manipulation checks:

> Showing that the experimental manipulation successfully differentiated the conditions helps to fortify the importance of non-significant findings. That is, if the conditions indeed were found to be distinct as expected, but the results did not produce the expected pattern, then evidence begins to accumulate that the hypothesized causal relationship is not present. (p. 235-236)

The design called for two key manipulations, the presence or absence of a frustrating event and the presence or absence of freedom to express emotions. Because manipulation check results in the pilot study indicated an inherent weakness in the express-suppress manipulation, this portion of the design was strengthened in the main study.

Manipulation check results for the main study demonstrated the efficacy of both experimental manipulations. The factor analysis of the manipulation

check items revealed three discrete factor scales. The first factor scale, which consisted mostly of filler items, had no real bearing on the manipulations or the design. The second factor scale and third factor scales corresponded directly to the intended domains of express-suppress and frustrate-no frustrate.

The data were reanalyzed using these scales as the dependent variables and significant main effects were found for both the express-suppress and the frustrate-no frustrate manipulations. Because the participants perceived the manipulations in the manner intended, it is safe to conclude that the experimental manipulations successfully differentiated the conditions and that the design was a fair test of the hypotheses. The criticism that the manipulation only tapped one dimension of anger might be raised; this perspective assumes that some other dimension of anger was left untested. While this criticism is initially appealing, it is generally not suported by any of the research that describes the nature of anger (Averill, 1982; Spielberger, 1991; Tavris, 1989).

These findings are consistent with the empirical theorists' conclusion that there was no clear pattern of gender differences in men's and women's experience and

expression of anger. By failing to demonstrate the hypothesized difference between the clinical and empirical populations, this study may have also provided ancillary support for Tavris' (1989) and Sharkin's (1993) notion that the clinical theorists may have been wrong.

If these reviewers are assumed to be correct, the question of why this over-generalizing occurred still remains. One possible explanation is that the clinical theorists, who wrote from a gender role socialization perspective, saw mostly traditional men and women in their clinical practices. Because this study tested all hypotheses from a gender role perspective and found no relevant significant differences between people identified as "masculine" and people identified as "feminine", this explanation seems unlikely.

An additional possible explanation for this over-generalizing can be derived from Averill's (1982) notion of the differences between anger and aggression:

> Anger . . . is the name of an emotional syndrome; aggression--a response intended to inflict pain or discomfort upon another--is one way in which anger is sometimes expressed . . . the assumption that anger is a subjective experience, or a state of physiological arousal, or whatever, is a category mistake. Anger represents the entire syndrome. . . ." (p. 30)

This idea of "category mistakes" may possibly explain the clinicians' position. The confusion of aggression with anger is a demonstrated phenomenon. In research with prison inmates, McDougall et al. (1990) reported that inmates identified as angry by prison staff were actually aggressive rather than angry. Similarly, when inmates previously identified by staff as angry completed brief aggression control programs, results were as favorable as other inmates who had completed longer term anger control programs. This suggested that these subjects may have had aggression problems all along, rather than the anger problems that were identified

Finally, in a study entitled "Gender Role Masculinity and Angry Aggression in Women," Kogut, Langley, and O'Neal (1992) found that high gender role masculine women were more aggressive than low gender role masculine women, but they were not more angry. While results clearly revealed that anger and aggression were distinct separate constructs which operated independently of one another, the authors still categorically used the term "angry aggression."

Perhaps the clinical theorists' contention that men over-express anger and need help with anger control can also be understood as a category mistake. Averill (1982)

suggested that clinicians may well observe gender differences in patient's level of aggression:

> Men tend to be more aggressive than women in non-angry situations. This difference in aggressiveness may carry over into clinical disorders where men may have more problems controlling aggression and women expressing it. But whatever differences exist in the capacity for aggression, few differences are observed in the everyday experience of anger. (p. 310-311)

Similarly, it is possible that the clinical theorists' assertion that women suppress anger and need help with anger expression may be a different type of category mistake. While the historical subjugation of women cannot be disputed, it must be noted that the clinical theorists often wrote from a feminist perspective. Perhaps these clinicians over-generalized from those observations of women's anger that supported their views. Averill (1982) raised this notion:

> The feminist argument is thus less concerned with women's anger per se than with the overall condition of women in society. The argument that women are inhibited in their anger is clearly an over-generalization. Women can and do become angry as readily as men, and they are able to express their anger as effectively. But from the feminist perspective, women are not becoming angry at the right kinds of things. (p. 314)

Future Research

Before concluding that these hypotheses do not account for the differences between the clinical and empirical theorists' observations, this study should be replicated. Additionally, a broader age range sample should be included,

and if possible, a clinical and non-clinical sample should be compared. An ideal design would include empirical measures of anger in patients that have been clinically identified as typifying stereotypically gender-differentiated anger styles.

Similarly, studies which test for gender differences in both anger and aggression are needed. Ideally, these designs would simultaneously measure both of these constructs in the same population. As the Averill study (1982) raised the question of clinicians seeing aggression as anger, studies which explore both clinicians' perceptions of clients' aggression and clients' anger are also needed. Finally, it is important that future empirical anger research be done with therapy patients. Whenever possible, clinical theorists should use valid empirical methods and similarly empirical researchers should study clinical populations.

Practice implications

The findings of this study did not support the use of gender differentiated strategies in therapeutic work with anger. It is important to recognize that women and men may indeed face different consequences for their anger (Tavris, 1989) or construe different meanings from anger experiences

(Buehner, 1992), but, based on this and previous studies, neither gender seems to have a particular style of problematic anger.

In Client-Centered Therapy, Rogers (1951) suggested that the client, not the therapist, should direct the process of therapy. While all therapists are not Rogerian, most would probably agree that using treatment strategies based on preconceived notions of stereotypical behavior is clearly inappropriate. Yet, the clinical anger and gender theorists have persisted in recommending and using these types of strategies even after they have been repeatedly refuted by empirical research.

Neither this study nor any empirical study reviewed for this project revealed data that supported the clinical theorists' view of male and female anger. Apparently, men's and women's anger is best viewed from the perspective of the needs of the individual rather than from a gender differentiated perspective.

APPENDIX A
CONSENT FORM

Consent:

Hello, I am Jeff Fischer, a graduate student doing psychology research. I am asking you to participate in a study in which you will attempt to solve a few logic problems and fill out a survey.

Your name will never be associated with your survey responses, so you will be answering anonymously. Although it will be very helpful if you answer every question, you will still receive credit if you decide not to answer a particular question.

The purpose of the study is to get a better understanding of students' reactions solving problems. We expect you to have no risk of discomfort. On the other hand, outside of having a chance to think about your reactions to the problems, it is not clear that participating will result in any immediate benefit to you. I am willing to answer any questions now, or later, if you want to call me at 392-0601.

You can stop participating in the study at any time, if you choose to. You will NOT receive any money for participating, but you will receive (number of credits) credits in (course number).

Thank you.

APPENDIX B
EXPERIMENTAL MANIPULATION PROBLEMS

DIRECTIONS:

PLEASE DO NOT OPEN THIS PACKET UNTIL YOU ARE TOLD TO DO SO.

In the special codes section of your answer sheet please bubble in the following information.

In special code A, bubble in the 10's digit of your age
In special code B, bubble in the 1's digit of your age

If you are 18 you would bubble in a 1 in A and a 8 in B.

In special code C, bubble in a 1 if you are male and a 2 if you are female.

In special code D, bubble in your class: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

In special code E bubble in your race: 1=White (non-Hispanic), 2=Hispanic, 3=African-American, 4=Asian American, 5=other

VERY IMPORTANT - Please bubble your form code in special code F on your answer sheet. Your form code is 1.

PLEASE DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO DO SO.

Name: _____

Remain quiet and keep your composure. These problems are fairly simple. Research has shown that the average UF student can do them easily.

Please remain quiet and keep your feelings to yourself.

1. Imagine that the string of letters below is a circle that contains a word of eight letters with one letter missing. Replace the missing letter to read the word. It may read counterclockwise or clockwise, but the letters are in the proper order:

A N T H E N A ?

2. Each of the following four words has had the same vowel removed. At least 2 of that vowel are missing from each word. What are the reconstructed words?

PRMAT RHRST TNEGT FASRC

3. Can you change MEAT to TREE by changing one letter at a time to form a new English word each time?

M E A T

____ ____ ____ ____

____ ____ ____ ____

____ ____ ____ ____

____ ____ ____ ____

T R E E

4. Each letter stands for a different letter. The same substitutions occur each time. Translate the phrase:

UR UA NYXG RII GIR RI SI RGWAW EUFGR

5. What would logically come next in this sequence:
S30 N31 O30 _____

6. The owner of a Gainesville candy store had a contest to see who could tell how many jelly beans were in the container in the window. Sue guessed 92, William 88, Jane 95, Jesse 87, and Jack 74. They were wrong, not in this order: by six, eight, three, and seven, and one of them was correct. What is the correct number of jelly beans?

Remember: Keep your feelings to yourself!

Please use the space below to list your typical schedule. We are interested in your daily pattern of activities. All responses will remain anonymous.

PERIOD 1

PERIOD 2

PERIOD 3

PERIOD 4

PERIOD 5

PERIOD 6

PERIOD 7

PERIOD 8

PERIOD 9

PERIOD 10

PERIOD 11

Remember: Please remain quiet and keep your feelings to yourself.

DIRECTIONS:

PLEASE DO NOT OPEN THIS PACKET UNTIL YOU ARE TOLD TO DO SO.

In the special codes section of your answer sheet please bubble in the following information.

In special code A, bubble in the 10's digit of your age
In special code B, bubble in the 1's digit of your age

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In special code C, bubble in a 1 if you are male and a 2 if you are female.

In special code D, bubble in your class: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

In special code E bubble in your race: 1=White (non-Hispanic), 2=Hispanic, 3=African-American, 4=Asian American, 5=other

VERY IMPORTANT - Please bubble your form code in special code F on your answer sheet. Your form code is 2.

PLEASE DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO DO SO.

Name: _____

Feel free to respond openly and naturally. These problems are fairly simple. Research has shown that the average UF student can do them easily.

Feel free to respond openly.

1. Imagine that the string of letters below is a circle that contains a word of eight letters with one letter missing. Replace the missing letter to read the word. It may read counterclockwise or clockwise, but the letters are in the proper order:

A N T H E N A ?

2. Each of the following four words has had the same vowel removed. At least 2 of that vowel are missing from each word. What are the reconstructed words?

PRMAT RHRST TNEGT FASRC

3. Can you change MEAT to TREE by changing one letter at a time to form a new English word each time?

M E A T

____ ____ ____ ____

____ ____ ____ ____

____ ____ ____ ____

____ ____ ____ ____

T R E E

4. Each letter stands for a different letter. The same substitutions occur each time. Translate the phrase:

UR UA NYXG RII GIR RI SI RGWAW EUFGR

5. What would logically come next in this sequence:
S30 N31 O30 _____

6. The owner of a Gainesville candy store had a contest to see who could tell how many jelly beans were in the container in the window. Sue guessed 92, William 88, Jane 95, Jesse 87, and Jack 74. They were wrong, not in this order: by six, eight, three, and seven, and one of them was correct. What is the correct number of jelly beans?

Feel free to respond openly and naturally

Please use the space below to express any thoughts or feelings that you may have after doing the problems. We care about your emotional reaction to the task. All responses will remain anonymous.

Feel free to respond openly and naturally

DIRECTIONS:

PLEASE DO NOT OPEN THIS PACKET UNTIL YOU ARE TOLD TO DO SO.

In the special codes section of your answer sheet please bubble in the following information.

In special code A, bubble in the 10's digit of your age
In special code B, bubble in the 1's digit of your age

If you are 18 you would bubble in a 1 in A and a 8 in B.

In special code C, bubble in a 1 if you are male and a 2 if you are female.

In special code D, bubble in your class: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

In special code E bubble in your race: 1=White (non-Hispanic), 2=Hispanic, 3=African-American, 4=Asian American, 5=other

VERY IMPORTANT - Please bubble your form code in special code F on your answer sheet. Your form code is 3.

PLEASE DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO DO SO.

Name: _____

Please bubble your form code in special code F on your answer sheet.

Remain quiet and keep your composure. These problems are fairly simple. Research has shown that the average UF student can do them easily. Remember:

Please remain quiet and keep your feelings to yourself.

1. Unscramble the following letters into a word:
   ORFLIDA; the first letter is F

2. Analogy:

   STONE : SCULPTURE as

   a. prison: inmates

   b. words: poetry

   c. needle: thread

   d. cartoon: characters

3. What is the remainder when 99 is divided by 5?

4. A man and a woman are watching the sunset. The woman is the man's brother's daughter.
   What is the woman's relation to the man?

5. This word can be changed into something edible. Rearrange the letters to form the new food word.

   ASSUAGE

6. What number, times itself three times, equals 8.

Remember: Keep your feelings to yourself!

Please use the space below to list your typical schedule. We are interested in your daily pattern of activities. All responses will remain anonymous.

PERIOD 1

PERIOD 2

PERIOD 3

PERIOD 4

PERIOD 5

PERIOD 6

PERIOD 7

PERIOD 8

PERIOD 9

PERIOD 10

PERIOD 11

Remember: Please remain quiet and keep your feelings to yourself.

DIRECTIONS:

PLEASE DO NOT OPEN THIS PACKET UNTIL YOU ARE TOLD TO DO SO.

In the special codes section of your answer sheet please bubble in the following information.

In special code A, bubble in the 10's digit of your age
In special code B, bubble in the 1's digit of your age

If you are 18 you would bubble in a 1 in A and a 8 in B.

In special code C, bubble in a 1 if you are male and a 2 if you are female.

In special code D, bubble in your class: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

In special code E bubble in your race: 1=White (non-Hispanic), 2=Hispanic, 3=African-American, 4=Asian American, 5=other

VERY IMPORTANT - Please bubble your form code in special code F on your answer sheet. Your form code is 3..

PLEASE DO NOT GO ON UNTIL YOU ARE INSTRUCTED TO DO SO.

Name: _____

Feel free to respond openly and naturally. These problems are fairly simple. Research has shown that the average UF student can do them easily.

Feel free to respond openly.

1. Unscramble the following letters into a word:
   ORFLIDA; the first letter is F

2. Analogy:

   STONE : SCULPTURE as

   a. prison: inmates

   b. words: poetry

   c. needle: thread

   d. cartoon: characters

3. What is the remainder when 99 is divided by 5?

4. A man and a woman are watching the sunset. The woman is the man's brother's daughter.
   What is the woman's relation to the man?

5. This word can be changed into something edible. Rearrange the letters to form the new food word.

   ASSUAGE

6. What number, times itself three times, equals 8.

Feel free to respond openly and naturally

Please use the space below to express any thoughts or feelings that you may have after doing the problems. We care about your emotional reaction to the task. All responses will remain anonymous.

Feel free to respond openly and naturally

APPENDIX C
QUESTIONNAIRE

MACCLD and MACCLH

DIRECTIONS:

You are now required to answer the following questions.

Below you will find words which describe different kinds of moods and feelings. Bubble in a "1" for the words which describe how you feel now - today, Bubble in a "0" if the word does not fit your present mood. Some of the words might sound alike, but we want you to answer a yes ("1") or no ("0") to all of them.

1	active	24	free	47	panicky
2	adventurous	25	friendly	48	peaceful
3	affectionate	26	frightened	49	pleased
4	afraid	27	furious	50	pleasant
5	aggressive	28	glad	51	polite
6	alone	29	good	52	quiet
7	angry	30	good-natured	53	rejected
8	annoyed	31	happy	54	sad
9	bored	32	hostile	55	satisfied
10	complaining	33	impatient	56	secure
11	critical	34	incensed	57	shaky
12	cross	35	interested	58	steady
13	cruel	36	irritated	59	suffering
14	daring	37	joyful	60	sunk
15	destroyed	38	lonely	61	tame
16	disagreeable	39	lost	62	tender
17	discouraged	40	loving	63	tense
18	disgusted	41	mad	64	timid
19	energetic	42	mean	65	tormented
20	enraged	43	merry	66	understanding
21	enthusiastic	44	mild	67	warm
22	fearful	45	miserable	68	whole
23	forlorn	46	nervous	69	worrying

STAXI S-anger Sub-scale

For the following questions there are a number of statements which people have used to describe themselves. Read each statement and then bubble in the appropriate number on your answer sheet to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Work rapidly, and give the answer which seems to describe your present feelings best.

Not at all	Somewhat	Moderately	Very much so
0	1	2	3

70 I am furious
71 I feel irritated
72 I feel angry
73 I feel like yelling at somebody
74 I feel like breaking things
75 I am mad
76 I feel like banging the table
77 I feel like hitting someone
78 I am burned up
79 I feel like swearing

PAQ

The next group of items inquire about what kind of a person you think you are. Each item consists of a pair of characteristics, with the numbers 0-4 in between. For example:

Not at all artistic 0 1 2 3 4 Very artistic

Each pair describes contradictory characteristics--that is, you cannot be both at the same time, such as very artistic and not at all artistic. The numbers form a scale between the two extremes. You are to choose a number which describes where you fall on the scale. For example, if you think you have no artistic ability, you would choose 0, if you think you are pretty good, you might choose 3. If you thought you were an excellent artist, you could choose 4, and so on.

80
Not at all aggressive 0 1 2 3 4 Very aggressive

81 Not at all independent	0	1	2	3	4	Very independent
82 Not at all emotional	0	1	2	3	4	Very emotional
83 Very submissive	0	1	2	3	4	Very dominant
84 Not at all excitable in MAJOR crisis	0	1	2	3	4	Very excitable in a MAJOR crisis
85 Very passive	0	1	2	3	4	Very active
86 Not at all able to devote self completely to others	0	1	2	3	4	Able to devote self completely to thers
87 Very rough	0	1	2	3	4	Very gentle
88 Not at all helpful to others	0	1	2	3	4	Very helpful to others
89 Not at all competitive	0	1	2	3	4	Very competitive
90 Very home oriented	0	1	2	3	4	Very worldly
91 Not at all kind	0	1	2	3	4	Very kind
92 Indifferent to others' approval	0	1	2	3	4	Highly needful of other's approval
93 Feelings not easily hurt	0	1	2	3	4	Feelings easily hurt
94 Not at all aware of others'feelings	0	1	2	3	4	Very aware of others' feelings
95 Can make decisions easily	0	1	2	3	4	Has difficulty making decisions

96 Gives up very easily	0	1	2	3	4	Never gives up easily
97 Never cries	0	1	2	3	4	Cries very easily
98 Not at all self confident	0	1	2	3	4	Very self confident
99 Feels very inferior	0	1	2	3	4	Feels very superior
100 Not at all understanding of others	0	1	2	3	4	Very understanding of others
101 Very cold in relations with others	0	1	2	3	4	Very warm in relations with others
102 Very little need for security	0	1	2	3	4	Very strong need for security
103 Goes to pieces under pressure	0	1	2	3	4	Stands up well under pressure

Manipulate Check Items

DIRECTIONS: We are interested in providing a meaningful experience for students. Please answer the following general questions about this research. Using the scale provided, rate your agreement to the following statements:

Not at all 0 1 2 3 4 Very much

104 I felt free to express my feelings openly.
105 The examiners seemed to care about my feelings in the study.
106 The instructions were clear and concise.
107 After doing the problems, I was free to express any negative feelings that I had.
108 I feel good having done this study
109 The examiners encouraged honest feedback.
110 I found the logic problems conceptually easy
111 This was a positive experience.

112 I wanted to tear this survey up an walk out
113 Doing the study made me feel smart.
114 I felt that the examiners were genuinely interested in my reactions to the problems.
115 The room was well lit.
116 I was quickly able to solve the logic problems
117 I would be in another study like this one in the future.
118 My responses were inhibited in some way.
119 The examiners were appropriate and professional.
120 At times I felt frustrated, but at least I could get those feelings out in the study.
121 I gritted my teeth throughout the study
122 I learned from the study
123 This study was fun.
124 The study gave me the opportunity to express my own thoughts and feelings openly
125 This study was frustrating
126 I was able to share my feelings in the study.
127 I would recommend this study to others.
128 I was free to respond honestly.
129 I clenched my fists throughout this study.
130 The directions were clear.
131 The examiners did not really care how I felt during the study.
132 I feel positive about the study.
133 I wish I could clobber the person that wrote this.

APPENDIX D
DEBRIEFING

Again, thank you for participating in this experiment. Sometimes in the course of conducting a research experiment we can not disclose the exact nature of the experiment to the participants involved until the research is actually completed. If we had told you too much about the research hypotheses before the study this knowledge might have affected your ability to respond naturally. This could adversely affect the accuracy of the study.

Our aim in this study was to examine the degree to which men's and women's reactions to four different situations were the same. The four different situations were: (1) frustrated and told not to express yourself, (2) frustrated and encouraged to express yourself, (3) not frustrated and told not to express yourself, (4) not frustrated and encouraged to express yourself. We then measured the degree to which you felt sad and/or hostile afterwards. The theory we are testing is that either men or people who are very masculine (regardless of gender) will react to unexpressed frustration with hostility and that either women or people who are very feminine (regardless of gender) will react to unexpressed frustration with sadness.

One key point is that the way we either frustrated or did not frustrate you was with the problems you first did. To frustrate some of you, we deliberately made the problems almost impossible to solve. For others the problems were made to be easier. In truth, how well you did on the problems has almost nothing to do with your effort or natural ability. You will receive 2 credits, regardless of how many problems you got right.

Please be aware that on the survey questions, there were no right or wrong answers. Our only aim was to gain increased awareness of what responses people make in the face of expressible or inexpressible frustration.

Should you have any questions about this research or psychology research in general please feel free to contact me at (904) 392 0601.

Thank you for your help,

Jeffrey M. Fischer

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BIOGRAPHICAL SKETCH

Jeffrey M. Fischer was born on September 14th, 1963, in New York City. He received his BA from Lafayette College in 1985 and began his career as an officer of the Chase Manhattan Bank. He holds an MBA in finance from New York University (1989) and an MA and an EdM in psychological counseling from Columbia University (1991). He will receive his Ph.D. in counseling psychology from the University of Florida in 1996 after completing his internship at the University of California, San Diego.

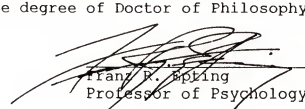
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Martin Heesacker, Chair
Associate Professor of
Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

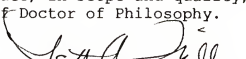
Harry A. Grater, Jr.
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Franz R. Epting
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Psychology.

August 1996

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Dean, Graduate School